Hay Days: management of floodplain meadows for sustainable hay production

Other

Hay Days: management of floodplain meadows for sustainable hay production

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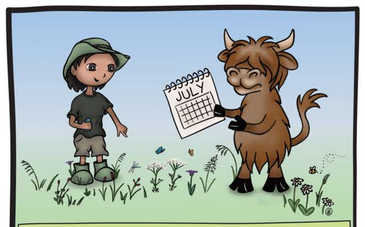
These internationally threatened meadows depend on annual hay cutting and aftermath grazing to maintain their characteristic botanical diversity.

Changes in agricultural methods and land use over the last century have led to the loss of 97% of our heritage wildflower meadows.

This study investigates how agricultural production can be brought back into balance with biodiversity conservation through well-timed haymaking.

Hay Days



Is it best to cut meadow hay in mid-summer, when it is most nutritious?

Or leave it for the insects and other wildlife to enjoy until the end of summer?

These are the questions that Captain Quad Rat has been pondering...

To find the answer, Ratty has been cutting quadrat samples from some lovely flowery meadows all summer long...

...and is investigating them to find out how the proportion of minerals locked up in the hay changes as the summer goes by.

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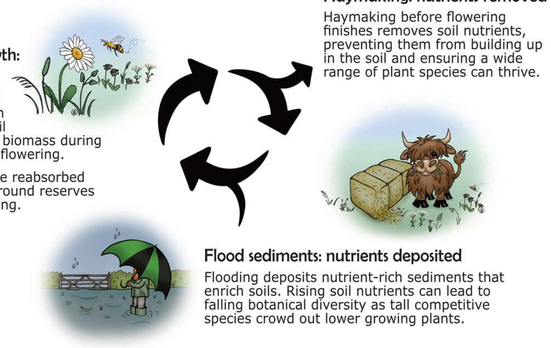
The floodplain meadow nutrient pump



Plant growth: nutrients transferred

Plant growth transfers soil nutrients to biomass during growth and flowering.

Nutrients are reabsorbed into underground reserves after flowering.

Haymaking: nutrients removed

Haymaking before flowering finishes removes soil nutrients, preventing them from building up in the soil and ensuring a wide range of plant species can thrive.

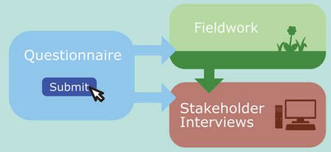
Flood sediments: nutrients deposited

Flooding deposits nutrient-rich sediments that enrich soils. Rising soil nutrients can lead to falling botanical diversity as tall competitive species crowd out lower growing plants.

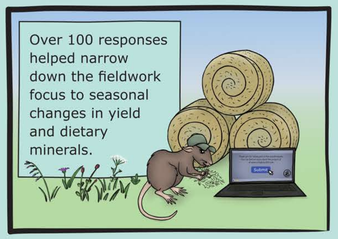
Understanding this can help farmers use the timing of their annual hay cut to balance the production of a nutritious hay crop with biodiversity conservation.

Meadow Managers

Meadows would not be meadows without meadow managers. So this project began by seeking their views to inform the fieldwork focus.



The questionnaire



The interviews

Nature Friendly Farming

Conservation and farming are often portrayed as opposing forces in the media and it became clear from the questionnaire that this divide is inaccurate and unhelpful.

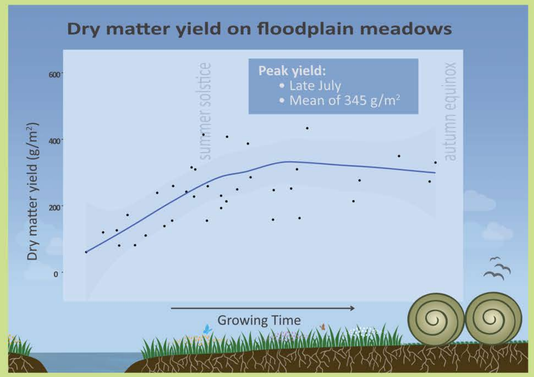
Hay yield and minerals

Floodplain meadows are a naturally fertile farm resource.

Cutting date

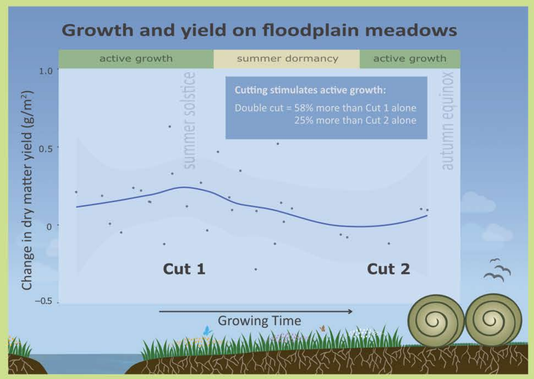
Peak yield and peak nutrient content do not occur at the same time, so land managers need to find the right balance. Mineral data for this study is currently being analysed.

Agri-environment schemes often restrict hay cutting dates until after mid-July and this can cause conflict between agricultural and biodiversity management goals.



Double cutting

One method to maximise yield and total nutrient removal is to take a double hay cut. The aim is to take two harvests during the active growth periods in the early summer and autumn, avoiding the summer dormant period.



Acknowledgements and References

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